Serial No: DN6857

Scope:

These operating instructions cover the following model variants:-

SPP7515 – 75 ton capacity -110/115v 50Hz
SPP7525 – 75 ton capacity -220/240v 50Hz
SPP7545 – 75 ton capacity -380/440v 50Hz
SPP7516 – 75 ton capacity -110/115v 60Hz
SPP7526 – 75 ton capacity -220/240v 60Hz
SPP7546 – 75 ton capacity -380/440v 60Hz
SPP12015 – 120 ton capacity -110/115v 50Hz
SPP12025 – 120 ton capacity -220/240v 50Hz
SPP12045 – 120 ton capacity -380/440v 50Hz
SPP12016 – 120 ton capacity -110/115v 60Hz
SPP12026 – 120 ton capacity -220/240v 60Hz
SPP12046 – 120 ton capacity -380/440v 60Hz
SPP22015 – 220 ton capacity -110/115v 50Hz
SPP22025 – 220 ton capacity -220/240v 50Hz
SPP22045 – 220 ton capacity -380/440v 50Hz
SPP22015 – 220 ton capacity -110/115v 60Hz
SPP22025 – 220 ton capacity -220/240v 60Hz
SPP22045 – 220 ton capacity -380/440v 60Hz

INTRODUCTION

The operating and maintenance procedures listed within this manual should be adhered to and will enable the operator to obtain maximum efficiency and reliability from the equipment.

These instructions are issued to ensure safe operation of the tool by the intended Operator
To ensure maximum safety a copy of these instructions should accompany the tool at all times.

Ensure these instructions are read and fully understood by the operator before use of the tool.

NOTE:

On receipt of the equipment, carefully inspect the puller unit for any transit damage. If any transit damage is found, notify the carrier immediately. The carrier, and not the manufacturer, is responsible for any damage caused in transit to your premises.

SAFETY

Please carefully read all safety instructions, in order to ensure the safest use and longest service life of the equipment supplied.

Improper handling, misuse or operation by unqualified personnel will cause risks for

- The operator's health and life
- The machine and other objects

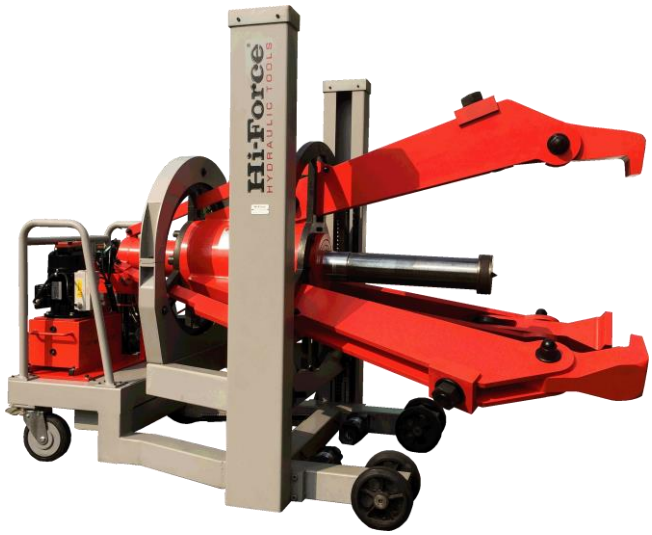
KEEP these operating instructions and other applicable Hi-Force manuals in a safe place, and ensure they are available for all personnel that install, use or maintain the equipment.

Personal Safety.
Before commencing work with this equipment, the operator should wear all the personal protective equipment recommended by his/her Company. Also we recommend that non-slip work gloves, safety shoes and safety glasses/visor are worn at all times.

Before commencing work the tool should be inspected to ensure:-

- No parts of the tool are broken, badly worn or damaged.
- IF IN DOUBT DO NOT USE THE TOOL.

Only qualified and trained personnel familiar with this type of equipment, should be allowed to operate the SPP Puller.



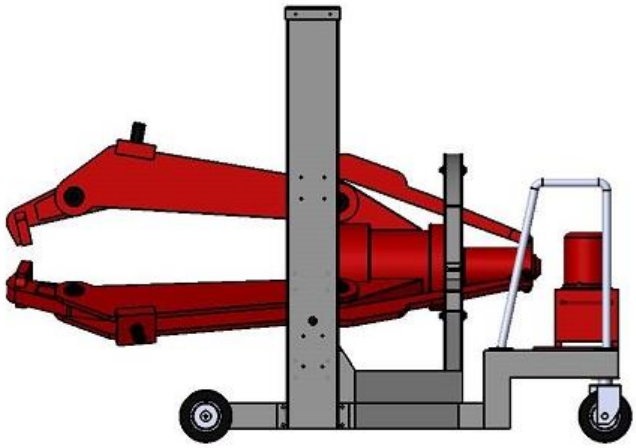
Hi-Force has incorporated all the safety features possible in this type of equipment. However, due to the nature of the equipment, being a portable, multi-purpose application tool, that can be used on many applications and in multiple environments, an amount of responsibility for the safe operation falls on the user.

Before any task is commenced, a risk assessment of the work area should be made.

- The working area must be adequately isolated.
- **Ensure** no unauthorised or untrained personnel are within the risk area when the equipment is in use.
- **Always** fit the protective blanket to the tool and work-piece prior to applying pressure to the system.
- **Never** leave the working area with the equipment under load.

When moving the SPP Puller to its working area, **always** ensure the puller is in its lowest position. **Always** close the puller arms to their minimum spread and remove all extension pieces. See Figure 1: below.

Fig: 1



Electric Pump

The base pump incorporated in this puller unit is from the Hi-Force HEP series of pumps and is designed to operate high pressure hydraulic cylinders and tools with a maximum working pressure of 570 bar.

HEP207 Base Series Pump

READ THIS MANUAL BEFORE OPERATING THE PUMP. FAILURE TO OBSERVE THE FOLLOWING WARNINGS COULD RESULT IN SERIOUS BODILY INJURY

- Ensure that all equipment connected to the pump is in good condition and is all rated for 570 bar operating pressure.
- Never invert the pump or lay it on its side either in transport or in storage
- Do not tamper with the internal or external relief valves of the pump.
- Inspect hoses regularly for damage and wear. Do not use hoses that are frayed, abraded or leaking.
- Do not handle hoses that are pressurised. Oil escaping under pressure can penetrate the

skin causing serious injury. If oil is injected under the skin see a doctor immediately.
- Never pressurise uncoupled couplers.
- Always use eye, ear and hand protective equipment when using this pump and associated equipment.
- Beware of hot surfaces on the motor. Do not obstruct the flow of cooling air around the motor.

MAINTENANCE.

- Inspect the pump for damage after each use.
- Change the oil every 500 working hours using Hi-Force HFO46 oil.
- Have the pump serviced regularly by a Hi-Force authorised repair centre.

PREPARING THE PUMP FOR FIRST USE.

1. Immediately after unpacking, examine the pump for signs of transit damage and if found contact the shipping company.

2. Establish the oil level in the oil reservoir using the level gauge on the end of the tank. Depending on the shipping method used, the reservoir may either be supplied full or empty. If the reservoir is empty it must be correctly filled before use. Remove the temporary transit plate which is fitted in the position of the filler breather cap by undoing the 3 screws. Fit the filler breather cap (packed separately) using the 3 screws which held the transit plate.

3. To fill the reservoir: Remove the filler cap and fill the tank with clean HFO46 oil to the upper level indicator.

4. Make sure that the voltage indicated on the motor rating plate corresponds with the available supply.

5. Ensure switch is set to ‘off’. Connect motor to required power source.

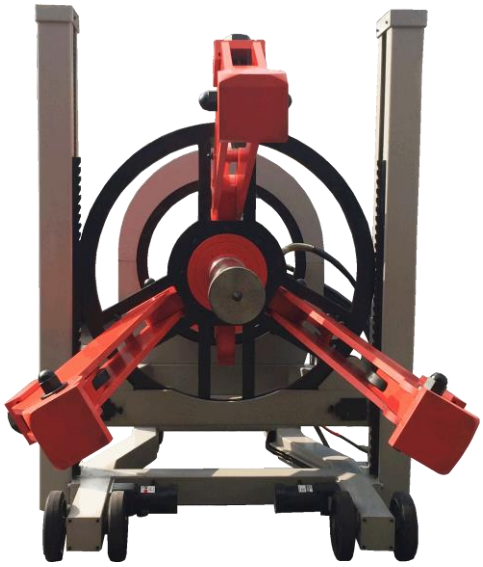
6. Check the direction of the motor rotation by turning the starter switch to the ‘ON’ position then to the ‘off’ position, whilst doing this observe the motor fan. The motor should run in a clockwise direction viewed from above. If the direction is wrong check the wiring of the electrical connector. **Running the pump with incorrect rotation may damage the low pressure pump unit.**

General Safety:

- Do not subject the hoses to potential hazards: such as fire, excessive direct heat, Sharp edges, heavy impact or extreme heat or cold temperatures.
- Hose material and coupler seals must be compatible with the hydraulic fluid being used. Check with Hi-Force if you are considering to use any other fluid than the HFO46 that is recommended by Hi-Force.
- Do not let the hoses come into contact with corrosive materials.

Puller Operation

Never rely on the puller to support, carry, or transport the work-piece being pulled. **Always** ensure that the work-piece being pulled is supported by means of a separate means other than the SPP Puller itself.



1. Make sure that the centre of the puller is aligned with the centre of the shaft of the part to be pulled. Failure to align parts correctly can result in a dangerous operating situation because of the high hydraulic pressures used.

2. Align puller jaw and extension pieces set-ups on the same centre-lines as the part being pulled. Failure to align parts correctly can result in a dangerous operating situation because of the high hydraulic pressure used.

3. Always support the object being pulled.

4. Do not stand on, in-line, under, or near puller while in use. Keep hands, feet and clothing away from moving parts. Stand behind and to one side of the puller when applying load to the object.

Figure: 4

5. Press and hold the “Drive Cart” or “Reverse Cart” button on the wireless remote controller to position the cart.

6. Press and hold the “Raise Arms” or “Lower Arms” button on the wireless remote controller to adjust height of the puller. (Figure;4)

7. Press and hold the “Spread Arms” or “Close Arms” button on the wireless remote controller to adjust jaws to required spread.

8. Adjust screw with scale on each jaw to get the same angle. Make sure all the jaws will engage with the work-piece.

9. Add enough extension pieces to the main central cylinder.

10. After assurance of puller alignment, press and hold the “Build Pressure” button, to advance the main cylinder toward the work-piece. When the main cylinder is in contact with the work-piece, release the “Build Pressure” button and make sure the puller extension pieces are centred on the work-piece to be pulled.

11. Open anti-dropping device (Figure: 5) to ensure the puller won’t drop during operation to cause danger. After finishing the work, pull back the bayonet of anti-dropping device.

Figure: 5

12. Wrap the work with a safety net. It's important and necessary to attach a support to the work that is to be pulled. The puller will not be able support the work once it is pulled from the shaft (Figure: 6)

Figure: 6

13: Press and hold the "Build Pressure" button on the wireless remote controller to continue pulling until the work-piece is pulled from the shaft.

14 If full stroke of the main cylinder has been reached, but the work-piece hasn't been pulled

completely away, press and hold the “Release Pressure” button on the wireless remote controller to retract the main cylinder. This allows the operator to add another extension piece with the jaws still gripping on the work-piece. Then press and hold the “Build Pressure” button to continue the pulling operation.

15. After finishing the work, always place the puller in its lowest position, close arms to minimum spread, remove all extension pieces, retract the main cylinder and unplug the power cord.

16. When the puller is idle, please pull out the fuse of the wireless remote controller and take out the two batteries.

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